

Prof. Ing. Jan Vobecký, DrSc.

Citizenship: Czech Republic



EDUCATION

2000 Full Professor in Electronics and Medical Technique, FEE – CTU in Prague
1999 DrSc. in Electronics and Vacuum technique, FEE – CTU in Prague
1992 Associate Professor in Microelectronics, FEE – CTU in Prague
1988 CSc. /equivalent of PhD. study/
1981 Ing. in Electrotechnology, FEE – CTU in Prague
Language skills: Czech, English, German

PROFESSIONAL EXPERIENCE

2022 - 2024 Vice Dean for Co-operation with Industry and Commercialisation
2018 - 2024 Senior Principal R&D Engineer, Hitachi Energy, Power Grids (middle management)
2007 - 2018 Principal Engineer, ABB Switzerland Ltd. Semiconductors (lower management)
2000 - 2007 Profesor, Dept. of Microelectronics, FEE – CTU in Prague
1992 - 2000 Associate Professor Dept. of Microelectronics, FEE – CTU in Prague
1984 - 1992 Assistant Professor Dept. of Microelectronics, FEE – CTU in Prague
1989 - 1990 Project Advisor, Electronics Dept., University of Uppsala, Sweden, 12 months
1982 - 1984 Research Fellow, Dept. of Microelectronics, FEE – CTU in Prague

INDUSTRIAL EXPERIENCE

2018 – 2024 Technology Management Team, Hitachi Energy Power Grids /HEPG/, Semiconductors
2012– 2024 IP management, review process, strategy, training, monitoring, landscaping, etc.
2016 – 2024 Project Assessor in ABB / HEPG Semiconductors.
2018 – 2024 Cooperation of ABB / HEPG with universities (Cambridge, Bologna, Milano, Zurich, Lausanne, Nord-West Schweiz, Rostock, FEE-CTU, etc.).
2008– 2024 Project manager in ABB / HEPG.
2008- 2024 ABB University – IP, business cases, project management, legal aspects of contracts,..
2009–2010 Acquisition company ČKD Polovodiče by ABB Semiconductors (due diligence).
2008– 2020 Industrial products qualification: FRD, thyristors for HVDC Classic in ABB / HEPG.

MEMBERSHIPS

1993 - 2024 Scientific Council, FEE – CTU in Prague
2007 - 2024 Scientific Council of CZ Academy of Sciences /title DrSc. in electronics & photonics/
1991 - 2024 Member of the IEEE, Senior Member of the IEEE
2019 – 2021 Associate editor of the IEEE Electron Device Letters
2013 - 2018 TPC member of the IEEE ISPSD, High Voltage Subcommittee
2006 - 2019 Member AdCom IEEE Electron Devices Society
2010- 2016 Editor of the IEEE EDS Newsletter for Western Europe
2006 - 2010 ViceChair of Subcommittee for Regions and Chapters within IEEE EDS AdCom
2004 - 2006 Vicepresident CS Section IEEE Region 8
2002 - 2003 President CS Section IEEE Region 8

SCIENTIFIC INTERESTS

Power semiconductors, silicon, silicon carbide, FRD, IGBT, IGCT, PCT, MOSFET,...

PUBLICATIONS AND RECOGNITION

More than 100 papers in WOS registered journals
90 granted patents from 24 patent families (EPO, GB, US, JP, KR, etc.), 2 utility models
WOS w/o autocitations: 837 citations, H index = 16
Invited paper and lectures: MIEL 2010, MIXDES 2011, IEEE TED 2017 p.760, SSDM 2019, IEDM 2021, GADEST 2022.
IEEE ISPSD Hall of Fame 2024 inductee
<http://orcid.org/0000-0002-2078-2244>

RECENT JOURNAL PUBLICATIONS

VOBECKÝ, J. On the Commutation of Thyristors for High-Voltage Direct Current Transmission (HVDC). IEEE Transactions on Electron Devices. 2024, 71 715-719.

VOBECKY, J. Fast Recovery Diodes for High-Current High-Voltage Insulated Gate Bipolar Transistors. IEEE Electron Device Letters. 2022, 43(6), 1311-1314.

VOBECKÝ, J. Impact of Defect Engineering on High-Power Devices. Physica Status Solidi A. 2021, 218(6), 1-9. ISSN 1862-6300. DOI 10.1002/pssa.202100169

HAZDRA, P. and J. VOBECKÝ. Radiation Defects Created in n-Type 4H-SiC by Electron Irradiation in the Energy Range of 1-10 MeV. PHYSICA STATUS SOLIDI A-APPLICATIONS AND MATERIALS SCIENCE. 2019, 216 (17).

VOBECKÝ, J., et al. Silicon Thyristors for Ultrahigh Power (GW) Applications (Invited Paper). IEEE Transactions on Electron Devices. 2017, 64(03), 760-768.

VOBECKÝ, J., et al. Impact of Electron Irradiation on the ON-State Characteristics of a 4H-SiC JBS Diode. IEEE Transactions on Electron Devices. 2015, 62(6), 1964-1969.

RECENT CONFERENCE PUBLICATIONS

VOBECKÝ, J., et al. A 4.5 kV Fast Recovery Diode Platform for High Current IGBT. In: International Exhibition and Conference for Power Electronics, Intelligent Motion, Renewable Energy and Energy Management, Nuremberg, 2024. p. 997-1001.

VOBECKÝ, J. et al Bidirectional Phase Control Thyristor (BiPCT): A New Antiparallel Thyristor Concept. PROCEEDINGS OF THE 2020 32ND INTERNATIONAL SYMPOSIUM ON POWER SEMICONDUCTOR DEVICES AND ICS (ISPSD), Vienna, 2020. pp. 54-57.

VOBECKÝ, J., et al. Thyristors with Full-Wave Blocking Capability for Industrial Applications. PCIM Asia Proceedings 2016. Shanghai, 2016. pp. 265-268.

VOBECKÝ, J. Thyristors with Low Circuit Commutated Turn-off Time for HVDC and FACTS. Proceedings PCIM Europe 2019. International Exhibition and Conference for Power Electronics, Intelligent Motion, Renewable Energy and Energy Management, Nuremberg, 2019. pp. 749-752.

VOBECKY, J., et al. Local Lifetime Control for Enhanced Ruggedness of HVDC Thyristors. Proceedings of the 30th International Symposium on Power Semiconductor Devices and ICs. 30th International Symposium on Power Semiconductor Devices and ICs, Chicago, 2018. pp. 156-159.

VOBECKÝ, J., et al. New Generation Large Area Thyristor for UHVDC Transmission. Proceedings PCIM Europe 2017. International Exhibition and Conference for Power Electronics, Intelligent Motion, Renewable Energy and Energy Management, Nuremberg, 2017.